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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,256	04/09/2001	Jeffrey Dinkel	DINK I	7582
6980	7590	12/15/2005	EXAMINER	
TROUTMAN SANDERS LLP BANK OF AMERICA PLAZA, SUITE 5200 600 PEACHTREE STREET, NE ATLANTA, GA 30308-2216			A, PHI DIEU TRAN	
			ART UNIT	PAPER NUMBER
			3637	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,256

Applicant(s)

DINKEL, JEFFREY

Examiner

Phi D. A

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13,45,46 and 49-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13,45-46,49-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

PRODUCT BY PROCESS CLAIM:

“ The subject matter present is regarded as a product by process claim in which a product is introduced by the method in which it is made. It is the general practice of this office to examine the final product described regardless of the method provided by the applicant.”

The above office policy applies to the limitation “ non-liquid applied”.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 8-9, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (01/0000738) in view of Fahmy (6171680) and Dinkel(3284980).

Mathieu (figure 9) discloses a prefabricated construction element having a cementitious core (10, col 7 line 7) having an upper principal surface and a lower principal surface, alkaline resistance fiber to be used with a Portland cement, having additive of expanded shale (col 10 line 3 third paragraph), a cementitious bonding surface (per the slurry layer 4 on top of the core 10) remaining on the upper principal surface of the core after the manufacture of the construction element, pervious upper reinforcement material(mesh 12) on the upper principal surface of the core, a cement slurry binding the reinforcement layer on the upper surface of the core, an upper coating/cement slurry(4) in communication with the upper principal surface of the core and the pervious upper reinforcement material, the layer comprising a fiberglass mesh with an alkaline resistant coating selected from the group consisting of woven fiberglass and fiberglass skim, the construction element being asymmetrical in design such that a layer or layers on the upper

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principal surface differ in arrangement from the layer or layers on the lower principal surface (figure 9 shows the asymmetry per the arrangement of membrane layer 4).

Mathieu does not show the core having alkaline resistance fiber, there is only one non-cementitious reinforcement impervious membrane for the construction element, that being located on the lower principal surface of the core, and an non-cementitious reinforcement impervious membrane remaining on the lower principle surface of the core after the manufacture of the element, and the membrane being high tensile strength, the membrane being a polymer membrane, the membrane being a single polymer membrane layer.

Fahmy (col 2 lines 53-58) discloses an impervious non-cementitious reinforcement polymer membrane (22) remaining on the lower principle surface of the core (20) after the manufacture of the element to act as a water vapor barrier, the membrane (22) being a single polymer membrane layer, only one impervious membrane located on the lower principle surface of the core(20).

Dinkel discloses fiber in the core to reinforce the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu to show the core having alkaline resistance fiber, there is only one non-cementitious reinforcement impervious membrane for the construction element, that being located on the lower principal surface of the core, and an non-cementitious reinforcement impervious membrane remaining on the lower principle surface of the core after the manufacture of the element, and the membrane being high tensile strength, the membrane being a polymer membrane, the membrane being a single polymer membrane layer because fiber would reinforce and strengthen the core as taught by Dinkel, and having an non-cementitious impervious

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membrane on the lower principle surface of the core after the manufacture of the element, the membrane being only a single polymer membrane layer on the lower principle surface would provide a water barrier to the construction element while allowing water vapor to escape as taught by Fahmy.

2. Claims 2, 3, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Fahmy (6171680) and Dinkel(3284980).

Mathieu as modified shows all the claimed limitations except for the fiber being chopped reinforcement fibers randomly dispersed in the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show the fiber being chopped reinforcement fibers randomly dispersed in the core because using chopped fibers randomly distributed on a core to reinforce a core is well-known in the art as it provides high strength to the core while maintaining low distribution cost.

3. Claims 4, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Fahmy (6171680), Dinkel(3284980) as applied to claim 2 or 8 above and further in view of Nicoll Jr. (3887952).

Mathieu as modified shows all the claimed limitations except for the membrane having water impervious paperboard.

Fahmy further discloses the membrane being conventionally known "breathable" resins made from polyesters, polyurethanes, acrylic polymers, polyethers, ester-ether copolymers, and the like as well as blends and copolymer thereof.

Nicoll Jr. shows a waterimpervious membrane being paperboard.

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It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show the membrane being waterimpervious paperboard as taught by Nicoll Jr. because waterproof paperboard allows for the easy and cheap construction of a waterproof layer as taught by Nicoll Jr.

4. Claims 5, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Fahmy (6171680), Dinkel(3284980) as applied to claim 2 or 8 above and further in view of Flack et al (4828635).

Mathieu as modified shows all the claimed limitations except for the membrane comprising spunbonded olefin.

Flack et al discloses a membrane made of spunbonded olefin.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show the membrane comprising spunbonded olefin because it allows for the construction of a water vapor permeable layer and energy cost saving as taught by Flack et al.

5. Claims 6, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Fahmy (6171680), Dinkel(3284980) as applied to claim 2 or 8 above and further in view of Galer (4450022).

Mathieu as modified shows all the claimed limitations except for the non-cementitious membrane comprising an alkaline resistant dense polymer fiber mat.

Galer shows a membrane an alkaline resistant dense polymer fiber mat.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show a non-cementatious membrane

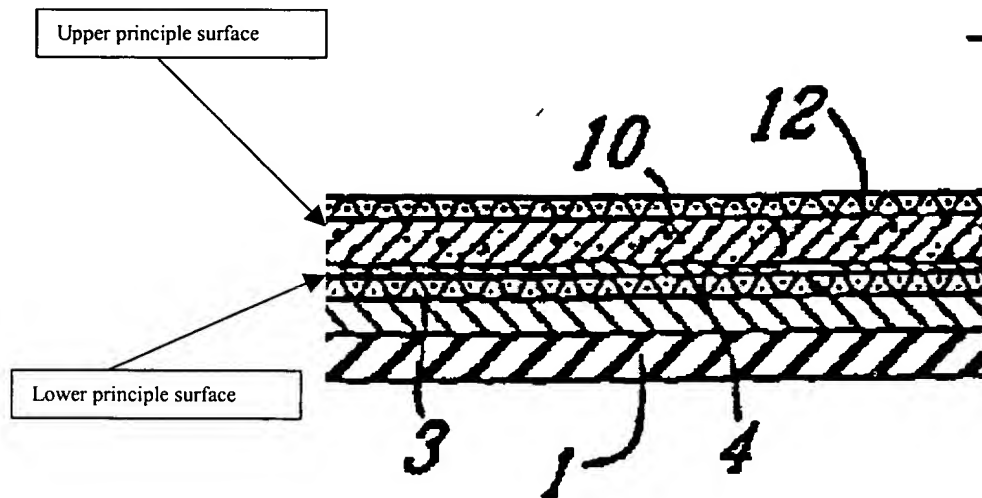
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comprising an alkaline resistant dense polymer fiber mat because it enables the formation of a reinforced protective layer as taught by Galer.

6. Claims 45-46, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Fahmy.

Mathieu (figure 9) discloses a prefabricated asymmetrical construction element (see below) having a cement core (10, page 10 col 1 line 2) having an upper principal surface and a lower principal surface, a pervious cementitious bonding surface (formed by the slurry 4 when dry) remaining on the upper principal surface of the core after the manufacture of the construction element, a cement slurry binding the reinforcing layer to the upper principal surface of the core, the structural construction element being asymmetrical in design such that after manufacture, the upper principal surface including a pervious cementitious bonding surface and the lower principal surface including an impervious non-cementitious reinforcing membrane, the construction element being a prefabricated structural element capable of supporting loads (not known yet) associated with elements used as an underlayment or backerboard, the upper principal surface and the lower principal surface of the core having different moisture resistant layer respectively on each (inherently so), the different moisture resistant layers having different moisture resistant properties, the core including alkaline resistance fibers.

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Mathieu does not show a single non-cementitious reinforcement impervious membrane layer remaining on the lower principle surface of the core after the manufacture of the element, and the membrane being high tensile strength, the membrane barrier enabling water vapor to pass therethrough.

Fahmy (col 2 lines 53-58) discloses a single impervious polymer membrane layer (22) remaining on the lower principle surface of the core (20) after the manufacture of the element to act as a water barrier.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu to show a single impervious membrane layer remaining on the lower principle surface of the core after the manufacture of the element, and the membrane being high tensile strength, the membrane barrier enabling water vapor to pass therethrough because having a single impervious membrane layer on the lower principle surface of the core after the manufacture of the element would provide a water barrier to the construction element while allowing water vapor to escape as taught by Fahmy.

Mathieu as modified shows only one impervious membrane for the construction element that being located on the lower principal surface of the core.

7. Claims 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Fahmy (6171680) and Dinkel(3284980).

Mathieu as modified shows all the claimed limitations except for the fiber being chopped reinforcement fibers randomly dispersed in the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show the fiber being chopped reinforcement fibers randomly dispersed in the core because using chopped fibers randomly distributed on a core to reinforce a core is well-known in the art as it provides high strength to the core while maintaining low distribution cost.

Response to Arguments

8. Applicant's arguments filed 9/30/05 have been fully considered but they are not persuasive.

The claimed limitations are rejectable by the references as set forth above.

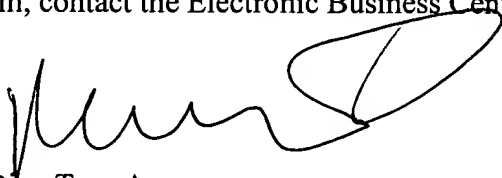
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 571-272-6867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke, positioned above the name Phi Dieu Tran A.

Phi Dieu Tran A

12/12/05